Cassette auto radio 22DC 570/00

22DC 670/00

Service
Service
Service

U.K. PARTS DISTRIBUTOR
Willow Vale Electronics Ltd
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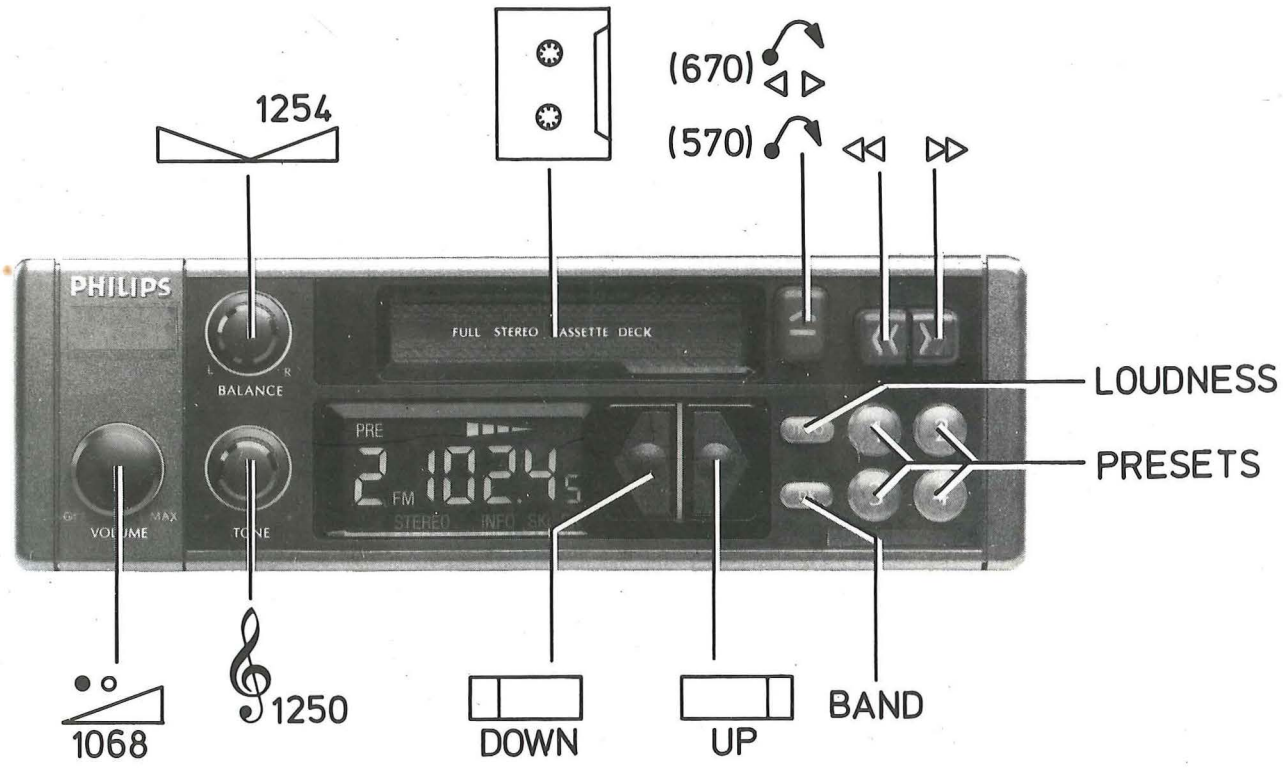
NOTTINGHAM
11, Marhill Road, Carlton.
Telephones: 0602-870789

For repair information of the cassette mechanism see Service Manual of auto reverse cassette P1-8 (22DC570), P6-16 (22DC670).

Service Manual

12 V



43 029 A12

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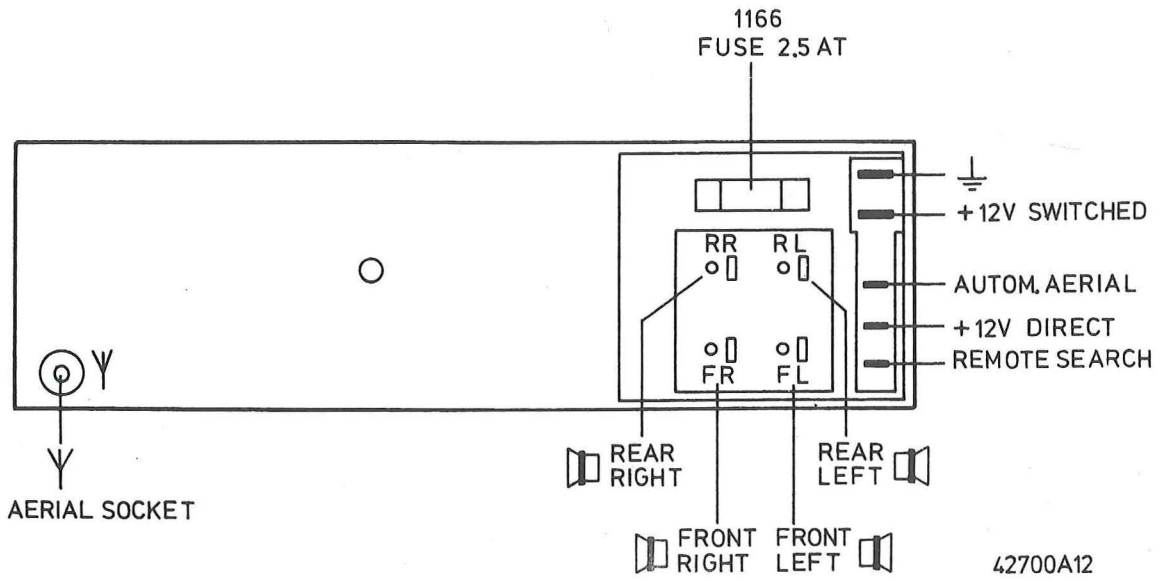


TECHNICAL DATA

General

Power supply	: 14.4V DC
Dimensions(wxhxd)	: 180x51x150 mm
Remote control unit	: 22EN9875

Radio

LW	: 144-288 kHz
MW	: 522-1611 kHz
FM	: 87.5-108 MHz
IF-AM	: 10.7 MHz
IF-FM	: 10.7 MHz
Sensitivity 26 dB S/R	: 160 µV (LW)
	: 110 µV (MW)
	: 4 µV (FM)
Limitation α-3dB	: 15 µV
10 dB crosstalk	: 150 µV

Cassette player

Number of tracks	: 2x2
Tape speed	: 4.76 cm/sec
Wow & Flutter	: ⩾ 0.35 %
Crosstalk	: ⩽ 30 dB

Amplifier

Output power (D ⩽ 10%)	: 2x5.2W ± 1 dB/4Ω
Loudness	: 7 dB at 100 Hz
	6 dB at 10 kHz
Tone control	: -9 dB at 100 Hz
	: -14dB at 10 kHz

SERVICING HINTS

SERVICE TEST PROGRAMME

The µC test programme can be called without first entering the security code.

µC test

This test is called by turning the set on **while** keeping the **P1** and **P2** keys depressed.
Besides the RAM, a great number of µC instructions are tested. If no faults occur, a special pattern will be displayed. (See fig. 1f)
The test can be stopped by turning the set off.

Display test

The display test is called by turning the set on **while** keeping the **P1** and **P3** keys depressed.
A number of easily recognizable patterns are then displayed in succession. (See figs. 1a to 1h)
If you want to make one of the patterns visible for a longer time, you only have to keep the P1 key pressed for the required time.

SECURITY CODE

General

To reduce the risk of theft, this car radio has a built-in electronic lock. The security code has been entered in the factory and cannot be changed by the customer.
The security code consists of four figures varying between "0000" and "9999". The figures are selected by pressing the UP and DOWN keys and are entered by pressing the P1 key. If you enter a wrong code, you will hear an error bleep and after 1 minute you will be given a new opportunity to enter the right code. Each time a wrong code is entered, the waiting time is doubled, so 1, 2, 4, 8 etc. with a maximum of 32 minutes.

Note: If the set is presented for repair with the security code switched on, and the customer has not stated the right code, the set will not be able to function.
Replacing the eeprom by a "non-coded" eeprom and/or replacing the microprocessor will not help in that case.

Working

ACTIVATING THE SECURITY CODE

Proceed as follows:

Switch the set on **while** pressing the **UP** key.

Now you hear a two-tone beep and the protection is activated.

The car radio will signal that the code has been activated by briefly showing in the display the character '-C-' at the moment of switching on the radio.

ENTRY OF THE CODE

Example: Suppose the code is 4567.

Action	**Display shows**	**Note**
- Switch on	-C-	
- Press P1	-	
- Select UP/DOWN "4"	4	first figure
- Press P1	4-	
- Select UP/DOWN "5"	45	second figure
- Press P1	45-	
- Select UP/DOWN "6"	456	third figure
- Press P1	456-	
- Select UP/DOWN "7"	4567	fourth figure
- Press P1	....	confirmation tone

The radio is now on and you can operate the cassette player.
Now that the security code is active, the code should be entered again each time the supply voltage has been interrupted.
To indicate that the security code is activated, the display briefly shows the character "C" each time the set is turned on.

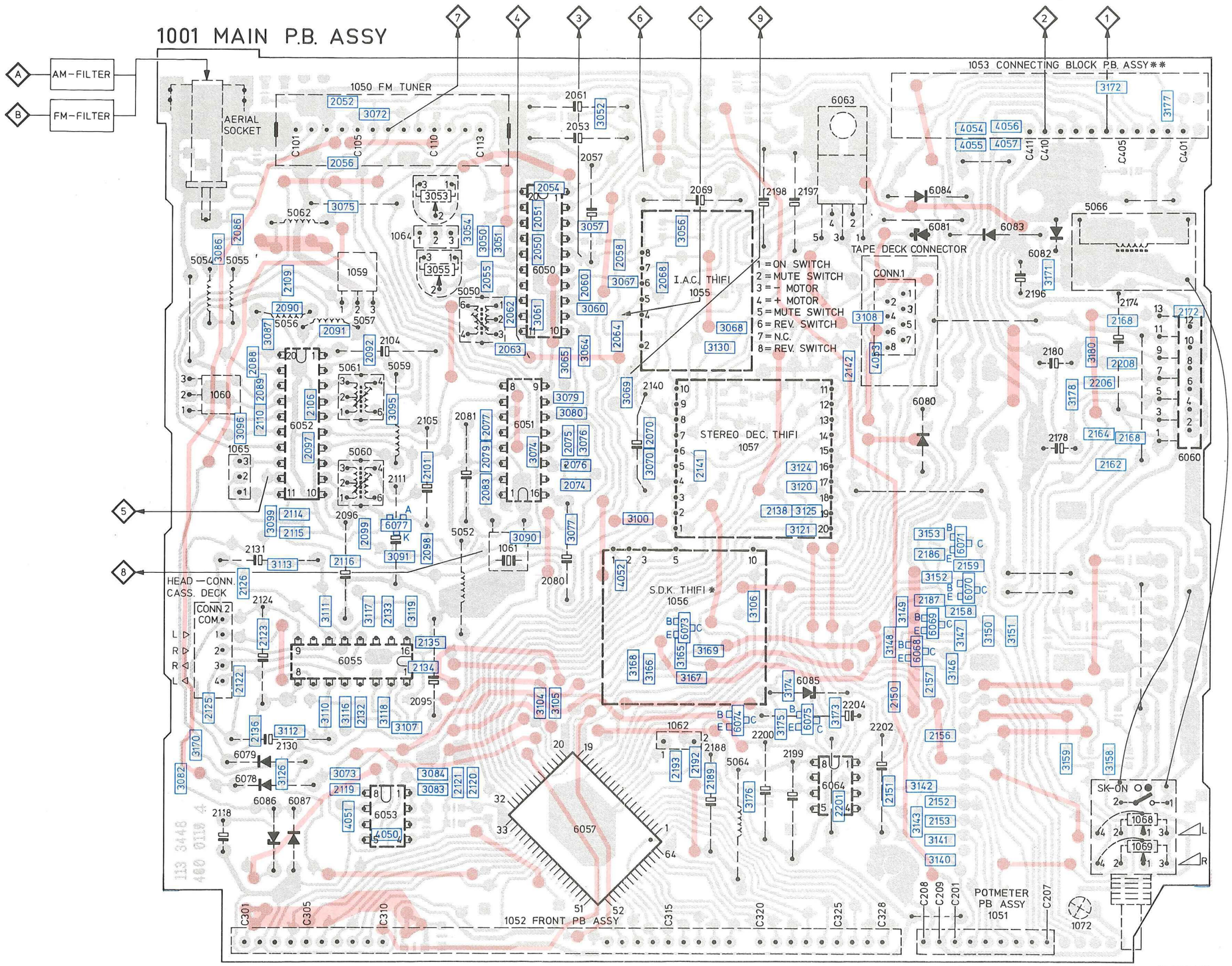
SWITCHING THE CODE OFF

Switch the set on **while** pressing the **UP** key. The display shows the indication "-C-". Enter the right code in the way described above. Two two-tone squeaks confirm that the security code is switched off.

ESD 

All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD).
Careless handling during repair can reduce service life drastically. When repairing, make sure that you are connected to the same potential as the mass of the set via a wrist wrap with resistance.
Keep components and tools also at this potential.

1001 MAIN P.B. ASSY



2... CHIP CAPACITOR
3... CHIP RESISTOR
4... CHIP JUMPER
6.. CHIP TRANSISTER

1056 FOR SDK VERSION ONLY
4052 NOT FOR SDK VERSION
4053 NOT FOR AUTO REVERSE VERSION

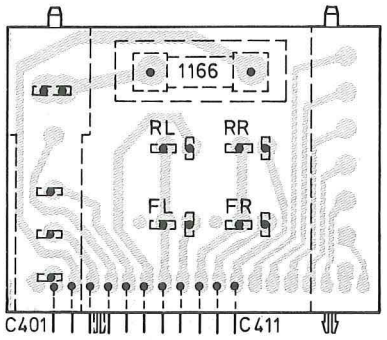
43 058 D12

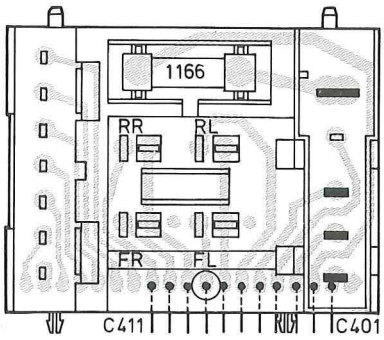
** C 401 = REMOTE SEARCH
C 402 = +12 V SWITCHED
C 403 = +12 V DIRECT
C 404 = N.C.
C 405 = AUTO AERIAL

C 406 = +F.L.
C 407 = – L.
C 408 = +R.L.
C 409 = – R.
C 410 = +F.R.
C 411 = R.R.

1053 CONNECTING BLOCK P.B. ASSY

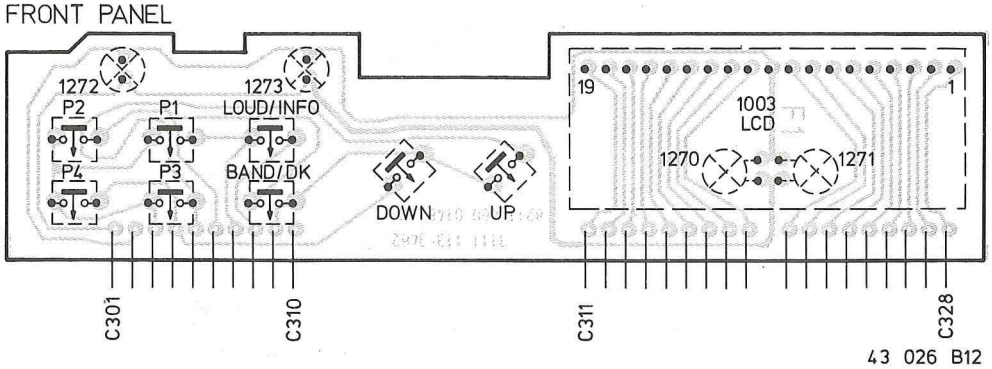
C401 = REMOTE SEARCH
C402 = +12V SWITCHED
C403 = +12V DIRECT
C404 = N.C.
C405 = AUTO.AERIAL
C406 = +F L
C407 = −L
C408 = +RL
C409 = −R
C410 = +FR
C411 = +RR





42 829 B12

FRONT PANEL



43 026 B12

* NOT FOR SETS WITH AUTOREVERSE

AF-IN

LEVEL

1057 STEREO THIFI UNIT — VCO 228 kHz — DIV — 19 38 57 114kHz — MPX DECODER — CONTROL INTERFACE — STEREO IND.

LOUD2 — LOUD1 — VOLUME — TONE — BALANCE — POTM. P.B. ASSY

1053 CONN. BLOCK P.B. ASSY — FRONT LEFT — REAR RIGHT — REAR LEFT — FRONT RIGHT — 4 Ω

6060 TDA1518Q — V ref

CASS. DECK — REV — FRWD — MUTE — COM — 6081 BZX79 C5V7

6055 TA7705P — BIAS

6057 TMP47C421AF

DATA — CLOCK — SK-BK — DK — LO/DX — (NOT FOR SDK VERSION) 4052

K02 REV. CASS. SWITCH — K80 MUTE ON — K01 MUTE — R92 — R70 CASS. MUTE — R42 RAD. MUTE — R43 MONO — K03 STEREO IND. — R40 BLEEP — R41 MAIN MUTE — R81 LOUDNESS

VLC COM4 — COM — SEG — R63 R62 R61 R60 R73 R72 R71 TEST — SEL 1 R52 — SEL 2 R53 — SEL 3 R91 — X-TAL OUT IN — REMOTE SEARCH K00 — RESET — HOLD

1003 L.C.D. — PRE — LOUD — LW MW FM2 FM1 — AST STEREO INFO SK DK

P1 P2 P3 P4 — AST LOUD DOWN UP — BAND DK MONO INFO

1270 1271 1272 1273 1274 — 40mA

1052 FRONT P.B. ASSY

DISPLAY PIN / COMMON A / COMMON B / COMMON C — 1 COM C — 2 COM B — 3 COM A — 4 PR F1 AS — 5 A1 G1 E1 — 6 B1 C1 D1 — 7 MW FM2+DP2 FM+DP1 — 8 LW 1 1FM1 — 9 S0 F2 STEREO — 11 A2 G2 E2 — 12 B2 C2 D2 — 13 S2 F3 D2 IN — 14 A3 G3 E3 — 15 B3 C3 D3 — 16 S4 F4 SK — 17 A4 G4 E4 — 18 B4 C4 D4 — 19 LO 5 DK

6064 L4904 — DELAYED RESET — THERM PROT

6063 L4918 — POTM. P.B. ASSY C209 — VOLUME POTM. ON

1001 MAIN P.B. ASSY

+14.4V — 1166 2.5AT

AUT. AERIAL — +14.4V DIRECT — REMOTE SEARCH

PRS.03289 T12-745

...V any position
...V FM position FM
...V AM position AM
...V > position play forward
...V < position play reverse
...V eject position eject

1050 FM TUNER

C101= GND.
C102= –
C103= GND.
C104= 0.0V
C105= 1.7V
C106= 8.5V
C107= VC-FM MP-7
C108= 1.4V
C109= GND.
C110= 1.7V
C111= 2.9V
C112= 0.2V
C113= 1.8V

1055 IAC-THIFI

1 = N.C
2 = 2.5V MP-9
3 = N.C
4 = 4.3V signal
0.0V no signal
5 = 4.3V
6 = 8.1V
7 = 8.4V
8 = GND.

1057 ST.DEC.THIFI

1 = 5.0V mono
0.2V stereo
2 = N.C
3 = 3.5V
4 = 2.5V
5 = 3.5V
6 = GND.
7 = N.C
8 = 7.3V
9 = N.C
10= 4.3V signal
0.0V no signal
11= 5.0V mono
0.0V stereo
12= N.C
13= 5.0V muted
0.0V signal
14= 0.0V muted
5.0V signal
15= 3.5V
16= 3.5V
17= 3.5V
18= 3.5V
19= 3.5V
20= 3.5V

6050 TEA6100

1 = 8.4V
2 = 0.8V
3 = 4.3V signal
0.0V no signal
4 = N.C
5 = MP-3
6 = 40 kHz
7 = GND.
8 = 8.4V
9 = 4.8V(SDA)
10= 4.8V(SCL)
11= 4.2V MP-4
12= 4.6V
13= 4.6V
14= 2.5V
15= 4.4V
16= 2.9V
17= 2.9V
18= 2.9V
19= 2.9V
20= GND.

6051 TSA6057

1 = 4 MHz
2 = 4 MHz
3 = 4.7V
4 = GND.
5 = 1.8V
6 = 1.8V
7 = 1.8V
8 = ⩽0.8V FM
8.3V AM
9 = 40 kHz ± 0.6Hz
10= 4.8V(SDA)
11= 4.8V(SCL)
12= GND.
13= VC-FM 1.3V-5.8V
(87.5MHz-108MHz)
14= 2.0V
15= N.C
16= 8.3V

6052 TEA6200

1 = 6.8V AM
2 = 4.0V AM
3 = 8.5V
4 = 8.5V
5 = 8.5V
6 = 8.5V
7 = 0.7V
8 = 4.0V AM
9 = 4.0V AM
10= 4.0V AM
11= 6.8V AM
12= 1.3V MP-5
13= 4.8V AM
14= 8.5V AM
15= 4.8V AM
16= 4.8V AM
17= GND.
18= 1.0V AM
19= 1.3V AM
20= 3.3V AM

6053 M8571B6

1 = GND.
2 = GND.
3 = GND.
4 = GND.
5 = 4.8V(SDA)
6 = 4.8V(SCL)
7 = GND.
8 = 5.0V

6055 TA7705P

1 = 8.5V
2 = 3.3V; 0.0V eject
3 = 0.0V >, eject
5.0V <
4 = N.C
5 = 2.9V
6 = 2.9V
7 = 2.9V
8 = GND.
9 = 2.9V
10= N.C
11= 2.9V
12= 2.9V
13= 2.9V
14= N.C
15= N.C
16= 3.3V

6060 TDA1518Q

1 = 2.2V
2 = 2.2V
3 = GND.
4 = 2.2V
5 = 6.6V
6 = 14.4V
7 = GND.
8 = 14.4V
9 = 6.6V
10= 14.4V
11= 14.4V
12= 6.6V
13= 2.2V

6063 L4918

1 = 14.4V
2 = 2.6V
3 = GND.
4 = GND.
5 = 8.5V

6064 L4904

1 = 12.7V
2 = 8.5V
3 = 5.6V
4 = GND.
5 = N.C
6 = 4.2V
7 = 5.0V
8 = 5.0V

6068/6069

e = 0.1V loudn. on
b = 0.7V loudn. on
c = 0.1V loudn. on

6070/6071

e = GND.
b = 0.6V loudn. off
0.0V loudn. on
c = 0.0V loudn. off
0.1V loudn. on

6073

e = GND.
b = 0.6V loudn. off
0.0V loudn. on
c = 0.0V loudn. off
3.3V loudn. on

6074

e = GND.
b = 0.0V
c = 5.0V

6075

e = GND.
b = 0.7V
c = 0.0V

For adjusting and checking see general procedures

Adjustment	SK		◇	▭	∠	▭
Qudrature detector	FM	93 MHz, 10 µV	Ⓑ	▭	5050	via 100 kΩ: 11-15 IC6050 ⩽ 100 mV DC
α-3dB	FM	93 MHz, 1 mV △f = 22.5 kHz f mod = 1 kHz	Ⓑ	▭	◺	① 0dB (775 mV)
		93 MHz, 15 µV △f = 22.5 kHz f mod = 1 kHz	Ⓑ	▭	3055	① -3dB
AM-search level	MW	990 kHz, 70 µV	Ⓐ	▭	3053	③ 1.75 V DC

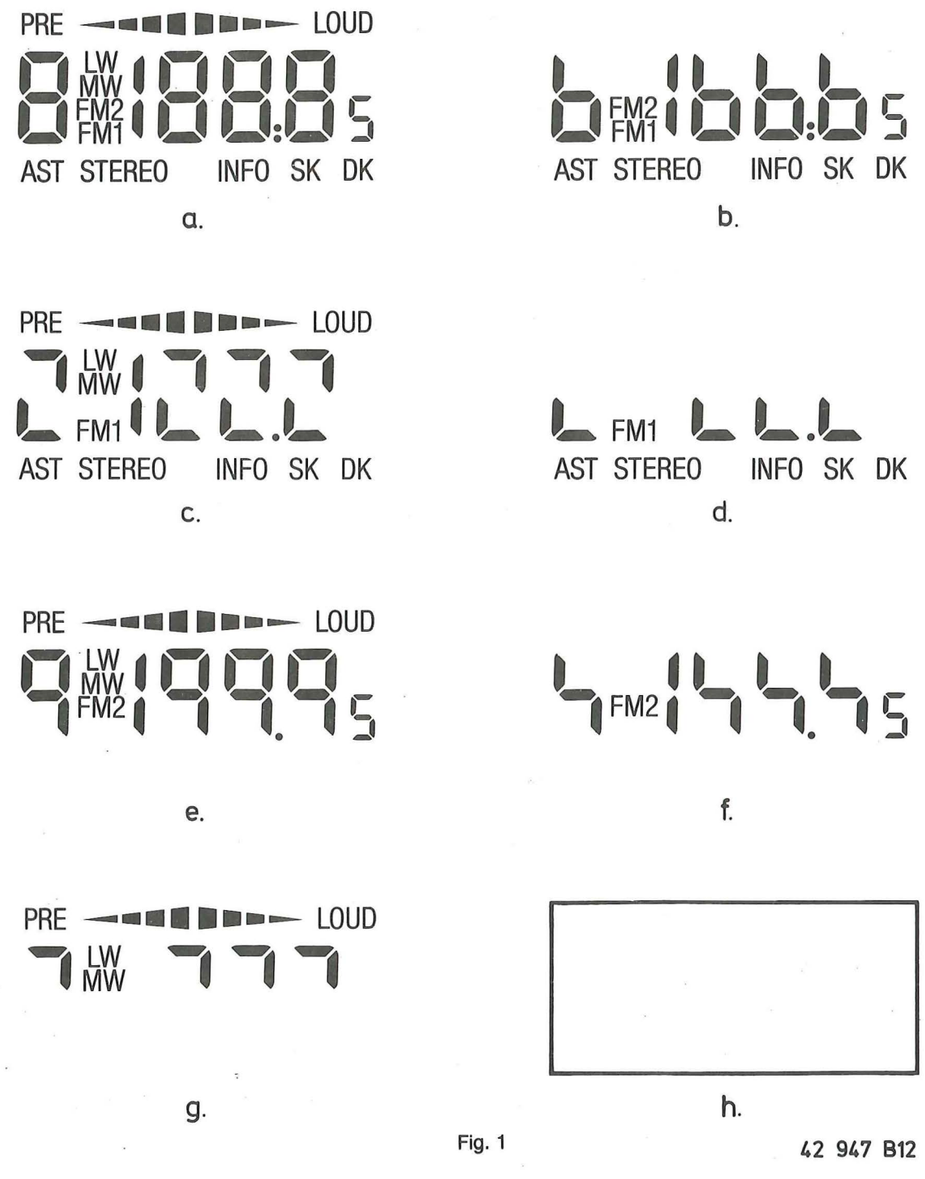
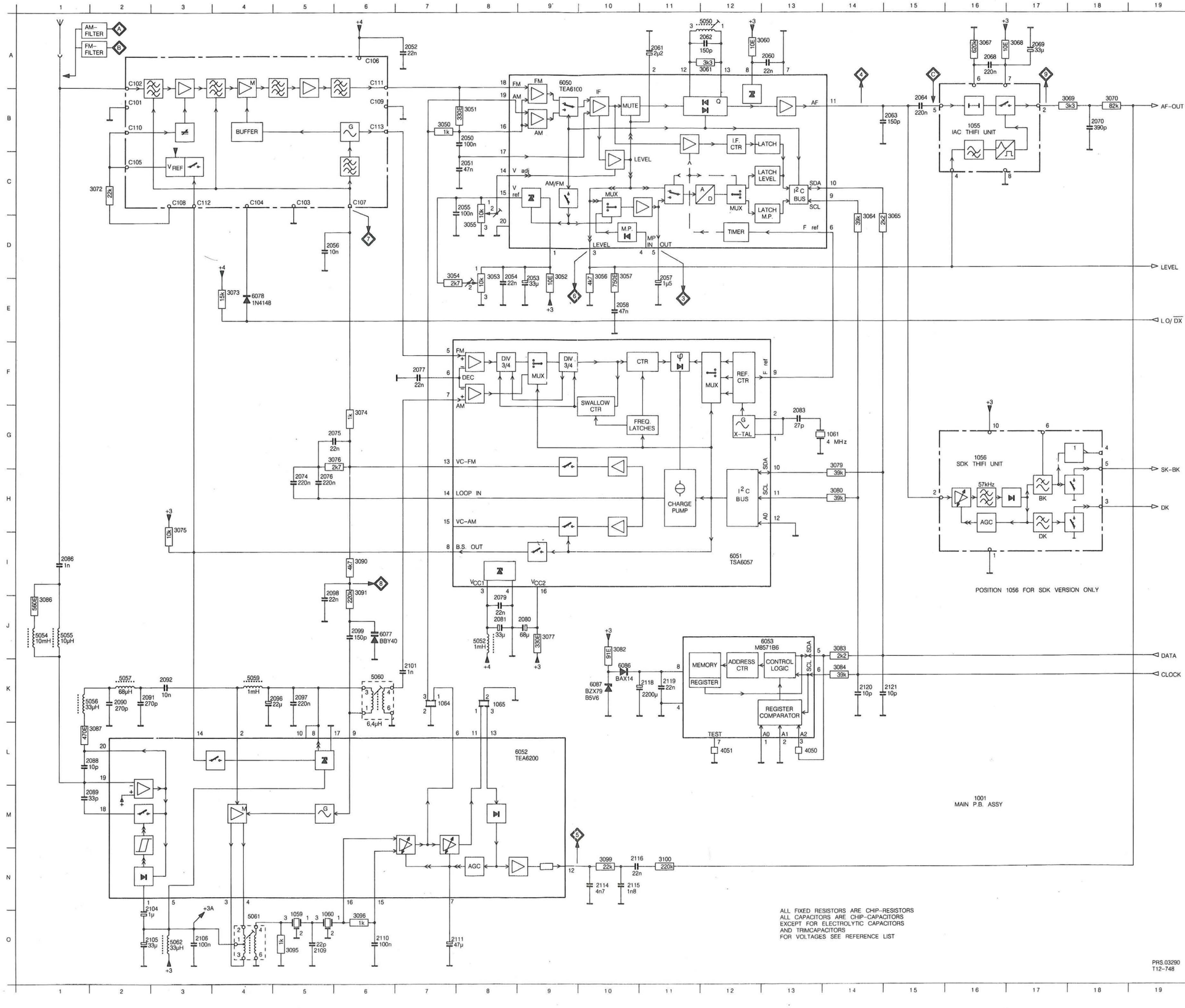


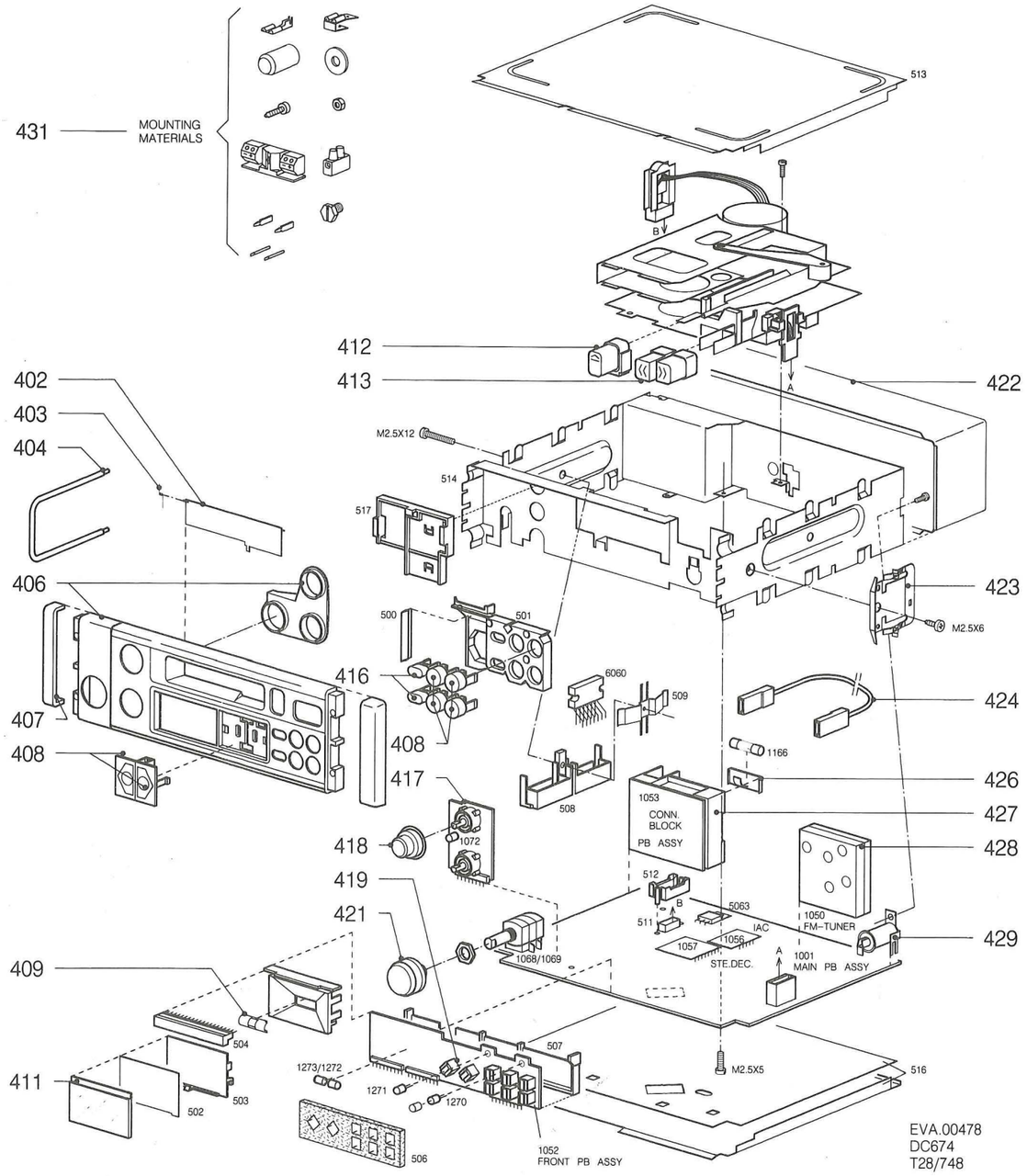
Fig. 1



1055 B16
1056 G16
1059 O 5
1060 O 5
1061 G14
1064 K 7
1065 K 8
2050 B 8
2051 C 8
2052 A 7
2053 E 9
2054 D 8
2055 C 8
2056 D 6
2057 E11
2058 E10
2060 A13
2061 A11
2062 A12
2063 B15
2064 B15
2068 A16
2069 A17
2070 B18
2074 H 5
2075 G 6
2076 H 5
2077 F 7
2079 J 8
2080 J 9
2081 J 8
2083 G13
2086 I 1
2088 L 2
2089 M 2
2090 K 2
2091 K 3
2092 K 3
2096 K 5
2097 K 5
2098 I 6
2099 J 6
2101 K 7
2104 N 3
2105 O 3
2106 O 3
2109 O 5
2110 O 6
2111 O 8
2114 N10
2115 N10
2116 N10
2118 K11
2119 K11
2120 K14
2121 K15
3050 B 7
3051 B 8
3052 D 9
3053 D 8
3054 D 7
3055 D 8
3056 D10
3057 D10
3060 A13
3061 A12
3064 D14
3065 D15
3067 A16
3068 A17
3069 B18
3070 B18
3072 C 2
3073 E 4
3074 G 6
3075 H 3
3076 G 6
3077 J 9
3079 G14
3080 H14
3082 J10
3083 J14
3084 K14
3086 J 1
3087 L 2
3090 I 6
3091 I 6
3095 O 5
3096 O 6
3099 N10
3100 N11
4050 L13
4051 L12
5050 A12
5052 J 8
5054 J 1
5055 J 1
5056 K 2
5057 K 2
5059 K 4
5060 K 6
5061 O 4
5062 O 3
6050 A 9
6051 I 12
6052 L 9
6053 J13
6077 J 6
6078 E 4
6086 K10
6087 K10

For checking and adjusting see general procedures

Check	SK	⊛→	◇	▭	Setting of controls	⏲	⊓
FM-Mute	FM	93 MHz, 1 mV	B			① 0dB (775 mV)	
		no signal				–30dB ≤ ① ≤ –40dB	
26dB-SNR	FM	93 MHz, 4 µV △f = 22.5 kHz f mod = 1 kHz	B			① 0dB (775 mV)	
		93MHz, 4µV without mod.				① ⩾ 26dB	
	MW	990 kHz, 110 µV 1 kHz, 30% AM	A			① 0dB (775 mV)	
		990kHz, 110 µV without mod.				① ⩾ 26dB	
Demodulated FM-levels	FM	93MHz. 1mV △f = 22.5 kHz f mod = 1 kHz	B			④ 200 mV ±1dB	
		93 MHz, 1 mV △f = 6.75 kHz f mod. = 1 kHz				④ 50 mV ± 1dB	
Demodulated FM level	FM	93 MHz, 1 mV △f = 3.75 kHz f mod. = 57 kHz	B			④ 20 mV ± 1 dB	
Demodulated AM-level	MW	990 kHz, 1 mV 1kHz, 30% AM	A			⑤ 350 mV ± 1dB	
Cross talk	FM	93 MHz, 1 mV stereo signal	B		+◺	L ① 0dB (775 mV) R ②	
		93 MHz, 1 mV stereo-R				R ② - L ① ⩾ 21dB	
SDS/10dB Cross talk	FM	93 MHz, 1 mV stereo signal	B		+◺	L ① 0dB (775 mV) R ②	
		93 MHz, 150 µV stereo-R				R ② - L ① = 10dB	
Search level FM	FM	93 MHz, 25µV	B			⑥ 2 V-DC	
Search level AM	MW	990 kHz, 70µV	A			③ 1.75 V-DC	
VC-FM	FM			87.5 MHz		⑦ ⩾ 1.0 V-DC	
				108 MHz		⑦ ⩽ 6.0 V-DC	
VC-AM	LW			144 kHz		⑧ ⩾ 0.8 V-DC	
	MW			1611 kHz		⑧ ⩽ 6.0 V-DC	
I.A.C.	FM	Vp, τ, T τ = 10 µsec T = 300 µsec Vp = 60 mV	C				⑨ 25-50 µs



402	4822 443 62358	(DC570, 574)	409	4822 462 71496		421	4822 413 31508
402	4822 443 62271	(DC670, 674)	411	4822 130 90499		422	4822 443 30463
403	4822 492 42231		412	4822 410 26314	(DC570, 574)	423	4822 492 63822
404	4822 403 53282		412	4822 410 26315	(DC670, 674)	424	4822 321 21135
406	4822 423 50891	(DC570)	413	4822 410 26316		426	4822 256 30338
406*	4822 423 50892	(DC574)	416	4822 410 26333	(DC570, 670)	427	4822 267 40763
406*	4822 423 50893	(DC670)	416	4822 410 26329	(DC574, 674)	428	4822 210 10305
406*	4822 423 50894	(DC674)	417	4822 214 51694		429	4822 267 30883
407	4822 443 62269		418	4822 413 31509		431	4822 310 10079
408	4822 410 26328		419	4822 276 12296			

* Incl. items 402, 403, 407

- MISCELLANEOUS -

1055	IAC-Thifi	4822 214 51676
1056	SDK-Thifi	4822 214 51674
1057	STEREO DEC. Thifi	4822 214 51677
1059	Cer.Filter 10.7 MHz	4822 242 71889
1060	Cer.Filter 10.7 MHz	4822 242 71889
1061	Crystal 4 MHz	4822 242 71881
1062	Crystal 4 MHz	4822 242 71882
1064	Cer.Filter 10.7 MHz	4822 242 71883
1065	Cer.Filter 10.7 MHz	4822 242 71883
1068	Potm.Volume 2X50kΩ	4822 102 40082
1166	Fuse 2.5A(T)	4822 253 30026
1250/1251	Potm.Tone 2X100kΩ	4822 102 30462
1254	Potm.Balance 100kΩ	4822 100 20663
1270÷1274	Lamp 14V-40mA	4822 134 40855

2050	100nF	20%	50V	4822 122 33104
2051	47 nF			4822 122 33211
2055	100nF	20%	50V	4822 122 33104
2056	10 nF			4822 122 31728
2057	47 nF			4822 122 33211
2061	2.2µF		40V	4822 124 20706
2062	150pF			4822 122 33181
2063	270pF			4822 122 33216
2064	220nF	20%	50V	4822 122 32916
2068	220nF	20%	50V	4822 122 32916
2070	390pF	20%	50V	4822 122 33172
2074	220nF	20%	50V	4822 122 32916
2076	220nF	20%	50V	4822 122 32916
2083	27 pF			4822 122 33214
2088	10 pF			4822 122 33212
2089	33 pF	20%	50V	4822 122 33215
2090	270pF	20%	50V	4822 122 33216
2091	270pF	20%	50V	4822 122 33216
2092	10 nF	20%	50V	4822 122 33177
2097	220nF	20%	50V	4822 122 32916
2099	150pF		50V	4822 122 33222
2106	100nF	20%	50V	4822 122 33104
2109	22 pF		50V	4822 122 33213
2110	100nF	20%	50V	4822 122 33104
2114	4.7nF		50V	4822 122 33217
2115	3.3nF		50V	4822 122 33219
2118	2200µF		6.3V	4822 124 41453
2120	10 pF		50V	4822 122 33212
2121	10 pF		50V	4822 122 33212
2122	820pF		50V	4822 122 33218
2123	820pF		50V	4822 122 33218
2125	820pF		50V	4822 122 33218
2126	820pF		50V	4822 122 33218
2132	2.7nF		50V	4822 122 33176
2133	2.7nF		50V	4822 122 33176
2134	220nF	20%	50V	4822 122 32916
2135	220nF	20%	50V	4822 122 32916
2136	100nF	20%	50V	4822 122 33104
2140	220µF		10V	4822 124 22409
2141	5.6nF		50V	4822 122 33221
2142	5.6nF		50V	4822 122 33221
2150	220nF	20%	50V	4822 122 32916
2151	220nF	20%	50V	4822 122 32916
2156	1.8nF		50V	4822 122 33144
2157	1.8nF		50V	4822 122 33144
2158	100nF		50V	4822 122 33209
2162	820pF		50V	4822 122 33218
2164	820pF		50V	4822 122 33218

2166	100nF	20%	50V	4822 122 33104
2168	100nF	20%	50V	4822 122 33104
2172	100nF	20%	50V	4822 122 33104
2178	2200µF		10V	4822 124 41452
2180	2200µF		10V	4822 124 41452
2186	100nF	20%	50V	4822 122 33104
2187	100nF	20%	50V	4822 122 33104
2192	33 pF		50V	4822 122 33215
2193	33 pF		50V	4822 122 33215
2196	2200µF		16V	4822 124 22412
2201	100pF	20%	50V	4822 122 33104
2204	2.2µF		40V	4822 124 20706
2206	4.7nF		50V	4822 122 33217
2208	4.7nF		50V	4822 122 33217

3050	1k	4822 111 91516
3051	330Ω	4822 111 91501
3052	10E	4822 111 91519
3053	10k Trimpotmeter	4822 100 20166
3054	2k7	4822 111 91525
3055	10k Trimpotmeter	4822 100 20166
3056	4k7	4822 111 91532
3057	750E	4822 111 91505
3060	10E	4822 111 91519
3061	3k3	4822 111 91526
3064	39k	4822 111 91528
3065	2k2	4822 111 91522
3067	620k	4822 111 91503
3068	10E	4822 111 91519
3069	3k9	4822 111 91527
3070	8k2	4822 111 91507
3072	22k	4822 111 91523
3073	15k	4822 111 91498
3074	1k	4822 111 91516
3075	10k	4822 111 91517
3076	2k7	4822 111 91525
3077	330E	4822 111 91501
3079	39k	4822 111 91528
3080	39k	4822 111 91528
3082	91E	4822 111 91508
3083	2k2	4822 111 91522
3084	39k	4822 111 91528
3086	560E	4822 111 91533
3087	470E	4822 111 91531
3090	4k7	4822 111 91532
3091	220k	4822 111 91524
3095	1k	4822 111 91516
3096	1k	4822 111 91516
3099	22k	4822 111 91523
3100	220k	4822 111 91524
3104	18k	4822 111 91521
3105	18k	4822 111 91521
3106	1k	4822 111 91516
3107	39k	4822 111 91528
3108	10k	4822 111 91517
3110	470E	4822 111 91531
3111	470E	4822 111 91531
3112	390k	4822 111 91529
3113	390k	4822 111 91529
3116	1M	4822 111 91509

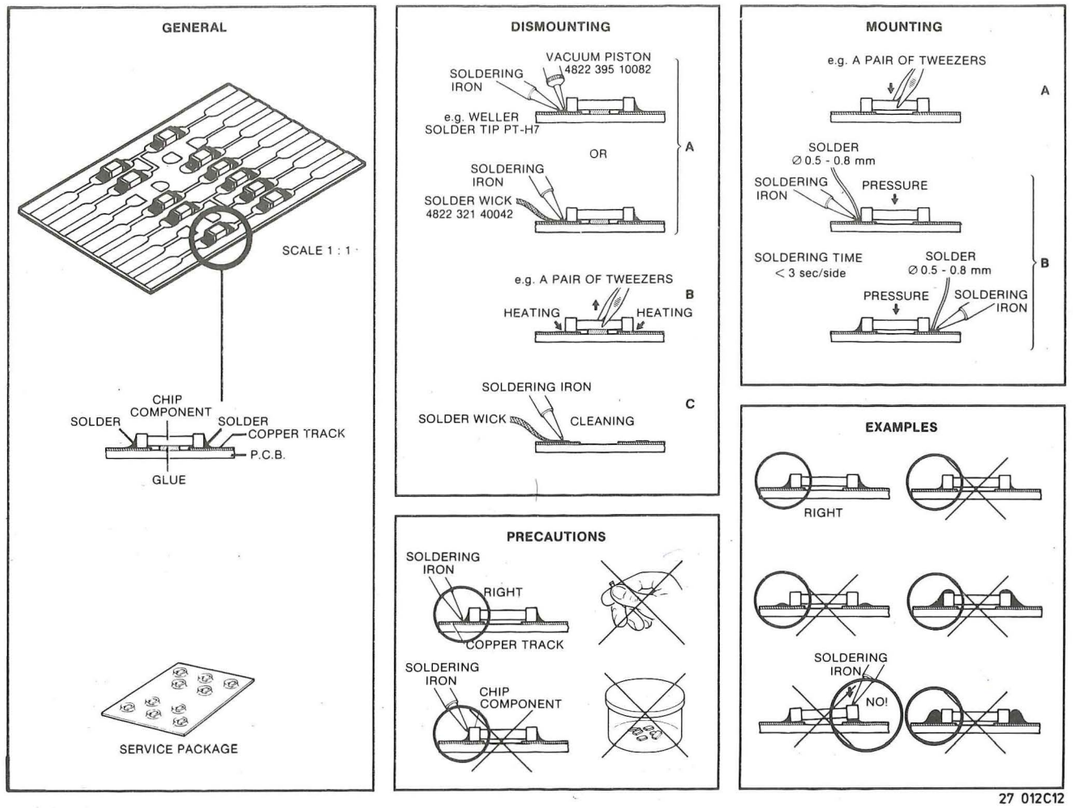
3117	1M	4822 111 91509
3118	56k	4822 111 91535
3119	56k	4822 111 91535
3120	56k	4822 111 91535
3121	56k	4822 111 91535
3124	2M2	4822 111 91511
3125	2M2	4822 111 91511
3126	39k	4822 111 91528
3130	390k	4822 111 91502
3140	2K7	4822 111 91525
3141	2k7	4822 111 91525
3142	10k	4822 111 91517
3143	10k	4822 111 91517
3146	15k	4822 111 91498
3147	15k	4822 111 91498
3148	100k	4822 111 91518
3149	100k	4822 111 91518
3150	3k3	4822 111 91526
3151	3k3	4822 111 91526
3152	100k	4822 111 91518
3153	100k	4822 111 91518
3158	5k6	4822 111 91534
3159	5k6	4822 111 91534
3160	5k6	4822 111 91534
3161	5k6	4822 111 91534
3165	100k	4822 111 91518
3166	100k	4822 111 91518
3167	100k	4822 111 91518
3168	100k	4822 111 91518
3169	100k	4822 111 91518
3170	75E	4822 111 91506
3171	270E	4822 111 91499
3172	270E	4822 111 91499
3173	100k	4822 111 91518
3174	100k	4822 111 91518
3175	10k	4822 111 91517
3176	10k	4822 111 91517
3177	680E	4822 111 91504
3178	4E7	4822 116 80464
3180	4E7	4822 116 80464
3204	22k	4822 111 91523
4050	0E	4822 111 91536
4051	0E	4822 111 91536

5050	4822 152 20684
5052	4822 157 50975
5054	4822 152 20677
5055	4822 152 20677
5056	4822 152 20677
5057	4822 152 20679
5059	4822 157 50975
5060	4822 152 20682
5061	4822 152 20683
5062	4822 152 20678
5064	4822 157 50975
5066	4822 152 20681

BAX14	4822 130 34193
BAX18	4822 130 34121
BBY40	5322 130 80119
BZX79/B5V1	4822 130 34233
BZX79/B5V6	4822 130 34173
BZX79/C4V7	4822 130 34174
1N4002	5322 130 30684
1N4148	4822 130 30621

BC847B Chip Transistor	4822 130 60511

6050	TEA6100	4822 209 72251
6051	TSA6057	4822 209 72248
6052	TEA6200	4822 209 72247
6053	M8571B6	4822 209 11506
6055	TA7705P	4822 209 82116
6057	TMP47C421AF	4822 209 72254
6060	TDA1518Q	4822 209 72249
6063	L4918	4822 209 72253
6064	L4904	4822 209 72252



Carbon film 0.2 W	70°C	5%	
Carbon film 0.33 W	70°C	5%	
Metal film 0.33 W	70°C	5%	
Carbon film 0.5 W	70°C	5%	
Carbon film 0.67 W	70°C	5%	
Carbon film 1.15 W	70°C	5%	

© Chip component

Ceramic plate Tuning ⩽ 120 pF NP.0	2%	
Others		—20/+80%
Polyester flat foil	10%	
Metalized polyester flat film	10%	
Polyester flat foil small size (Mylar)	10%	
Polysterene film/foil	1%	
Tubular ceramic		
Miniature single		
Subminiature tantalum	± 20%	

*a = 2,5 V
b = 4 V
c = 6,3 V
d = 10 V
e = 16 V
f = 25 V
g = 40 V
h = 63 V
j = 100 V
l = 125 V
m = 150 V
n = 160 V
q = 200 V
r = 250 V
s = 300 V
t = 350 V
u = 400 V
v = 500 V
w = 630 V
x = 1000 V
A = 1,6 V
B = 6 V
C = 12 V
D = 15 V
E = 20 V
F = 35 V
G = 50 V
H = 75 V
I = 80 V

27 037A/C

© Chips 50 V NP0 S1206			© Chips 0,125 W S1206			© Chips 0,125 W S1206			1U
1 pF	5%	4822 122 32479	4,7 E	5%	5322 111 90376	6,8 k	2%	4822 111 90544	
1,2 pF	5%	4822 122 33013	5,1 E	5%	4822 111 90393	7,5 k	2%	4822 111 90276	
1,5 pF	5%	4822 122 31792	5,6 E	5%	4822 111 90394	8,2 k	2%	5322 111 90118	
1,8 pF	5%	4822 122 32087	6,2 E	5%	4822 111 90395	9,1 k	2%	4822 111 90373	
2,2 pF	5%	4822 122 32425	6,8 E	5%	4822 111 90254	10 k	2%	4822 111 90249	
3,3 pF	5%	4822 122 32079	7,5 E	5%	4822 111 90396	11 k	2%	4822 111 90337	
3,9 pF	5%	4822 122 32081	8,2 E	5%	4822 111 90397	12 k	2%	4822 111 90253	
4,7 pF	5%	4822 122 32082	9,1 E	5%	4822 111 90398	13 k	2%	4822 111 90509	
5,6 pF	5%	4822 122 32506	10 E	2%	5322 111 90095	15 k	2%	4822 111 90196	
6,8 pF	5%	4822 122 32507	11 E	2%	4822 111 90338	16 k	2%	4822 111 90346	
8,2 pF	5%	4822 122 32083	12 E	2%	4822 111 90341	18 k	2%	4822 111 90238	
10 pF	5%	4822 122 31971	13 E	2%	4822 111 90343	20 k	2%	4822 111 90349	
12 pF	5%	4822 122 32139	15 E	2%	4822 111 90344	22 k	2%	4822 111 90251	
15 pF	5%	4822 122 32504	16 E	2%	4822 111 90347	24 k	2%	4822 111 90512	
18 pF	5%	4822 122 31769	18 E	2%	5322 111 90139	27 k	2%	4822 111 90542	
22 pF	10%	4822 122 31837	20 E	2%	4822 111 90352	30 k	2%	4822 111 90216	
27 pF	5%	4822 122 31966	22 E	2%	4822 111 90186	33 k	2%	5322 111 90267	
33 pF	5%	4822 122 31756	24 E	2%	4822 111 90355	36 k	2%	4822 111 90514	
39 pF	5%	4822 122 31972	27 E	2%	5322 111 90105	39 k	2%	5322 111 90108	
47 pF	5%	4822 122 31772	30 E	2%	4822 111 90356	43 k	2%	4822 111 90363	
56 pF	5%	4822 122 31774	33 E	2%	4822 111 90357	47 k	2%	4822 111 90543	
68 pF	5%	4822 122 31961	36 E	2%	4822 111 90359	51 k	2%	5322 111 90274	
82 pF	10%	4822 122 31839	39 E	2%	4822 111 90361	56 k	2%	4822 111 90573	
100 pF	5%	4822 122 31765	43 E	2%	5322 116 90125	62 k	2%	5322 111 90275	
120 pF	5%	4822 122 31766	47 E	2%	4822 111 90217	68 k	2%	4822 111 90202	
150 pF	5%	4822 122 31767	51 E	2%	4822 111 90365	75 k	2%	4822 111 90574	
180 pF	2%	4822 122 31794	56 E	2%	4822 111 90239	82 k	2%	4822 111 90575	
220 pF	5%	4822 122 31965	62 E	2%	4822 111 90367	91 k	2%	5322 111 90277	
270 pF	5%	4822 122 32142	68 E	2%	4822 111 90203	100 k	2%	4822 111 90214	
330 pF	10%	4822 122 31642	75 E	2%	4822 111 90371	110 k	2%	5322 111 90269	
390 pF	5%	4822 122 31771	82 E	2%	4822 111 90124	120 k	2%	4822 111 90568	
470 pF	5%	4822 122 31727	91 E	2%	4822 111 90375	130 k	2%	4822 111 90511	
560 pF	5%	4822 122 31773	100 E	2%	5322 111 90091	150 k	2%	5322 111 90099	
680 pF	5%	4822 122 31775	110 E	2%	4822 111 90335	160 k	2%	5322 111 90264	
820 pF	5%	4822 122 31974	120 E	2%	4822 111 90339	180 k	2%	4822 111 90565	
1 nF	10%	5322 122 31647	130 E	2%	4822 111 90164	200 k	2%	4822 111 90351	
1,2 nF	5%	4822 122 31807	150 E	2%	5322 111 90098	220 k	2%	4822 111 90197	
1,5 nF	10%	4822 122 31781	160 E	2%	4822 111 90345	240 k	2%	4822 111 90215	
1,8 nF	10%	4822 122 32153	180 E	2%	5322 111 90242	270 k	2%	4822 111 90302	
2,2 nF	10%	4822 122 31644	200 E	2%	4822 111 90348	300 k	2%	5322 111 90266	
2,7 nF	10%	4822 122 31783	220 E	2%	4822 111 90178	330 k	2%	4822 111 90513	
3,3 nF	10%	4822 122 31969	240 E	2%	4822 111 90353	360 k	2%	4822 111 90515	
3,9 nF	10%	4822 122 32566	270 E	2%	4822 111 90154	390 k	2%	4822 111 90182	
4,7 nF	10%	4822 122 31784	300 E	2%	4822 111 90156	430 k	2%	4822 111 90168	
5,6 nF	10%	4822 122 31916	330 E	2%	5322 111 90106	470 k	2%	4822 111 90161	
6,8 nF	10%	4822 122 31976	360 E	1%	4822 111 90288	510 k	2%	4822 111 90364	
10 nF	10%	4822 122 31728	360 E	2%	4822 111 90358	560 k	2%	4822 111 90169	
12 nF	10%	5322 122 31648	390 E	2%	5322 111 90138	620 k	2%	4822 111 90213	
15 nF	10%	4822 122 31782	430 E	2%	4822 111 90362	680 k	2%	4822 111 90368	
18 nF	10%	4822 122 31759	470 E	2%	5322 111 90109	750 k	2%	4822 111 90369	
22 nF	10%	4822 122 31797	510 E	2%	4822 111 90245	820 k	2%	4822 111 90205	
27 nF	10%	4822 122 32541	560 E	2%	5322 111 90113	910 k	2%	4822 111 90374	
33 nF	10%	4822 122 31981	620 E	2%	4822 111 90366	1 M	2%	4822 111 90252	
47 nF	10%	4822 122 32542	680 E	2%	4822 111 90162	1,1 M	5%	4822 111 90408	
56 nF	10%	4822 122 32183	750 E	2%	5322 111 90306	1,2 M	5%	4822 111 90409	
100 nF	10%	4822 122 31947	820 E	2%	4822 111 90171	1,3 M	5%	4822 111 90411	
180 nF	10%	4822 122 32915	910 E	2%	4822 111 90372	1,5 M	5%	4822 111 90412	
220 nF	20%	4822 122 32715	1 k	2%	5322 111 90092	1,6 M	5%	4822 111 90413	
			1,1 k	2%	4822 111 90336	1,8 M	5%	4822 111 90414	
© Chips 0,125 W S1206 NP0			1,2 k	2%	5322 111 90096	2 M	5%	4822 111 90415	
			1,3 k	2%	4822 111 90244	2,2 M	5%	4822 111 90185	
0 E	jumper	4822 111 90163	1,5 k	2%	4822 111 90151	2,4 M	5%	4822 111 90416	
1 E	5%	4822 111 90184	1,6 k	2%	5322 111 90265	2,7 M	5%	4822 111 90417	
1,1 E	5%	4822 111 90377	1,8 k	2%	5322 111 90101	3 M	5%	4822 111 90418	
1,2 E	5%	4822 111 90378	2 k	2%	4822 111 90165	3,3 M	5%	4822 111 90191	
1,3 E	5%	4822 111 90379	2,2 k	2%	4822 111 90248	3,6 M	5%	4822 111 90419	
1,5 E	5%	4822 111 90381	2,4 k	2%	4822 111 90289	3,9 M	5%	4822 111 90421	
1,6 E	5%	4822 111 90382	2,7 k	2%	4822 111 90569	4,3 M	5%	4822 111 90422	
1,8 E	5%	4822 111 90383	3 k	2%	4822 111 90198	4,7 M	5%	4822 111 90423	
2 E	5%	4822 111 90384	3,3 k	2%	4822 111 90157	5,1 M	5%	4822 111 90424	
2,2 E	5%	5322 111 90104	3,6 k	2%	5322 111 90107	5,6 M	5%	4822 111 90425	
2,4 E	5%	4822 111 90385	3,9 k	2%	4822 111 90571	6,2 M	5%	4822 111 90426	
2,7 E	5%	4822 111 90386	4,3 k	2%	4822 111 90167	6,8 M	5%	4822 111 90235	
3 E	5%	4822 111 90387	4,7 k	2%	5322 111 90111	7,5 M	5%	4822 111 90427	
3,3 E	5%	4822 111 90388	5,1 k	2%	5322 111 90268	8,2 M	5%	4822 111 90237	
3,6 E	5%	4822 111 90389	5,6 k	2%	4822 111 90572	9,1 M	5%	4822 111 90428	
3,9 E	5%	4822 111 90391	6,2 k	2%	4822 111 90545	10M	5%	5322 111 91141	
4,3 E	5%	4822 111 90392							